

REMARKS

Claims 1-29 are pending in this application. By this Amendment, claims 10-13, 20, and 21 are amended for clarity and to correct informalities. No new matter is added. Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

I. Objections to the Claims

The Office Action objects to claim 2 based on the use of the phrase "at least one of." Applicants respectfully submit that claim 2 is proper without amendment because the phrase "at least one of" refers to two systems, namely, (1) a power system and (2) a system with the power system mounted thereon. Thus, the claim recites that the parameter represents one or both of the two systems. Other claims having the same phrase are not objected. The Office Action objects to claim 12. Claim 12 is amended to obviate the objection. Withdrawal of the objections is respectfully requested.

II. Rejections Under 35 U.S.C. §112

The Office Action rejects claims 1, 10-13, 20 and 21 under 35 U.S.C. §112, second paragraph. These claims are amended to obviate the rejection. Withdrawal of the rejection is respectfully requested.

III. Rejection Under 35 U.S.C. §102

The Office Action rejects claims 1-7 and 10-13 under 35 U.S.C. §102(b) over Aoyama et al. (U.S. Pub. No. 2003/0056440 A1) (Aoyama). The rejection is respectfully traversed.

Applicants respectfully submit that Aoyama does not teach or suggest a power system the comprises fuel cells including a stop control module that selects a hydrogen purge mode or a hydrogen no-purge mode, wherein the hydrogen purge mode activates and controls a purge gas supply module to remove hydrogen from a hydrogen separation module, and the hydrogen no-purge mode stops the purge gas supply module as a stop control mode, and

executes stop control in the stop control mode to stop the supply of hydrogen to fuel cells, as recited in independent claim 1.

Aoyama discloses a power system that comprises fuel cells 70 and a fuel gas generation system including a reformer 40, a hydrogen separator membrane 62, and a hydrogen supply line which is shown in Fig. 5 as the line feeding the anode 71 of the fuel cell 70. Aoyama discloses supplying purge gas to the hydrogen flow passage 63 of the hydrogen separator membrane 62 using pumps 65 and 74.

The Aoyama disclosure is limited to the operation of the power system from start-up to and including normal operating conditions. Aoyama does not disclose operations of the power system during shutdowns. Thus, contrary to the assertions in the Office Action, Aoyama does not disclose features that reasonably can be considered to correspond to the stop control module recited in claim 1.

The Office Action asserts that the pump 74 operates a purge control system recited in claim 1. Applicants respectfully disagree with this assertion because Aoyama teaches the use of purge gas in start-up and normal power system operations, not for removal of hydrogen from the hydrogen separation module.

The Office Action also asserts that Aoyama teaches a power system that is "capable" of operating with the recited stop signal input module and stop control module. However, the Office Action does not identify these features in Aoyama, and instead relies on speculation that is not supported by the Aoyama disclosure. Thus, Applicants respectfully submit that Aoyama does not teach or suggest a stop control module feature having the combination of features recited in claim 1.

Applicants respectfully submit that Aoyama does not teach each and every feature recited in claim 1, substantially arranged as in this claim, either explicitly or implicitly. For at least these reasons, Applicant respectfully submits that independent claim 1 is patentable over

Aoyama. Thus, the rejection of independent claim 1, and claims 2-7 and 10-13, which depend from claim 1, should be withdrawn.

IV. Rejections Under 35 U.S.C. §103

The Office Action rejects claims 8, 9, 12 and 13 under 35 U.S.C. §103(a) over Aoyama; rejects claims 17-28 under 35 U.S.C. §103(a) over Aoyama in view of Yamanashi (U.S. Pub. No. 2001/0016276 A1); rejects claims 14-16 and 29 under 35 U.S.C. §103(a) over Aoyama in view of Epp et al. (U.S. Patent No. 6,063,515) (Epp); rejects claims 1-6, 10-13, 17, 18, 24, 27 and 28 under 35 U.S.C. §103(a) over Meyer et al. (U.S. Pub. No. 2003/0072978 A1) (Meyer) in view of Epp and further in view of Tillmetz et al. (U.S. Patent No. 6,410,175 B1); rejects claims 8, 9 and 26 under 35 U.S.C. §103(a) over Meyer and Epp in view of Tillmetz and further in view of Aoyama; rejects claims 1, 7, 14-16, 19, 20, 23, 25 and 29 under 35 U.S.C. §103(a) over Epp in view of Meyer; and rejects claims 21 and 22 under 35 U.S.C. §103(a) over Epp in view of Meyer and further in view of Yamanashi. Applicants respectfully traverse these rejections.

Applicants respectfully submit that Meyer does not teach or suggest a power system that comprises fuel cells including a stop control module that selects a hydrogen purge mode or a hydrogen no-purge mode, wherein the hydrogen purge mode activates and controls a purge gas supply module to remove hydrogen from a hydrogen separation module, and the hydrogen no-purge mode that stops the purge gas supply module as a stop control mode, and executes stop control in the stop control mode to stop the supply of hydrogen to fuel cells, as recited in independent claim 1.

Meyer discloses a fuel cell system and a shut-down procedure for the fuel cell system that includes purging a fuel cell 102 with an inert gas to remove hydrogen. Meyer also teaches a switch 132 that operates a diverter valve 146, shown in Fig. 1, that shuts off flow of fresh organic fuel to the fuel cell 102. The Office Action admits that Meyer does not teach a

stop control module, but nonetheless asserts that a stop control module is "inherently" disclosed in Meyer. The Office Action also asserts that the system disclosed in Meyer "is capable of programmed to stop with the no-purge mode in addition to the purge mode as described above, what with the inherency of the controller due to the sensors and valves present" (see page 14 of the Office Action). Applicants respectfully submit that this position is not supported anywhere in Meyer, nor does the Office Action assert that any feature is inherent.

Applicants respectfully submit that the other cited references (Epp and Tillmetz) do not overcome the deficiencies of Meyer described above. For example, the Office Action admits on page 22 that Epp does not disclose a shutdown system. Thus, Epp cannot reasonably be interpreted to teach or to have suggested either (1) a stop control module as recited in claim 1 or (2) the hydrogen no-purge mode recited in claim 1. Applicants respectfully submit that Tillmetz, which is limited to the operation of fuel cell systems during start-up and not during shutdown, also does not teach or suggest these features. Thus, Epp and Tillmetz do not overcome the deficiencies of Meyer.

For these reasons, Applicants respectfully submit that claim 1 is patentable over the combination of Meyer, Epp and Tillmetz. Thus, the rejections of claim 1 should be withdrawn. Applicants also respectfully request withdrawal of the rejections of dependent claims 2-29 based on the dependence of these claims from independent claim 1, as well as the additional features recited in these claims.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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